

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims:

1. (Currently Amended) A statistical multiplex system, comprising:

a plurality of image encoding means for encoding a plurality of program data, each of
which includes image data, and outputting the resultant;

at least one information encoding means for

 acquiring an information encoding rate,

 encoding auxiliary data other than the program data,

 determining a target encoding rate for said auxiliary data, and

 outputting the resulting encoded auxiliary data;

means for determining data remaining condition information regarding said encoded
auxiliary data;

data transmission command means for

 acquiring said target encoding rate,

 acquiring said data remaining condition information, and

 determining said information encoding rate on the basis of said target encoding
rate and said data remaining condition information;

multiplex means for multiplexing output data of each of the image encoding means and
the at least one information encoding means; and

statistical multiplex control means for

setting a respective image code rate for ~~the information~~ each image encoding means, the image code rate representing an amount of codes to be outputted per unit time, acquiring an encoding difficulty level which indicates a level of difficulty in encoding for each program data, and assigning ~~the respective image~~ code rates to each of the image encoding means on the basis of the information ~~code~~ encoding rate for the at least one information encoding means and the encoding difficulty level.

2. (Currently Amended) A statistical multiplex system according to claim 1, wherein the statistical multiplex control means determines an image reference value by subtracting the information ~~code~~ encoding rate for the at least one information encoding means from a gross code rate permissible, and assigns the respective image code rates to each of the image encoding means within a limit of the image reference value.

3. (Currently Amended) A statistical multiplex system according to claim 2, wherein the statistical multiplex control means sets temporary code rates, which are temporary target values of the respective image code rates, for each of the image encoding means on the basis of the encoding difficulty levels, and revises the temporary code rates so that the sum of the temporary code rates comes close to the image reference value within the limit thereof, thereby assigns the respective image code rates to each of the image encoding means.

4. (Currently Amended) A statistical multiplex system according to claim 1, wherein the statistical multiplex control means comprises:
a memory for temporarily storing the output data from the at least one information encoding means and thereafter outputting the data to the multiplex means, and for outputting said data remaining condition information.

5. (Currently Amended) A statistical multiplex controller used for a statistical multiplex system which includes
a plurality of image encoding means for encoding a plurality of program data, each of which includes image data, and outputting the resultant;

at least one information encoding means for
acquiring an information encoding rate,
encoding auxiliary data other than the program data,
determining a target encoding rate for said auxiliary data, and
outputting the resulting encoded auxiliary data;
means for determining data remaining condition information regarding said encoded auxiliary data;

data transmission command means for
acquiring said target encoding rate,
acquiring said data remaining condition information, and
determining said information encoding rate on the basis of said target encoding rate and said data remaining condition information; and

multiplex means for multiplexing output data of each of the image encoding means and the at least one information encoding means, comprising:

means for setting a respective image code rate for ~~the each image~~ information encoding means, the image code rate representing an amount of codes to be outputted per unit time;

means for acquiring an encoding difficulty level which indicates a level of difficulty in encoding for each program data; and

means for assigning the respective image code rates to each of the image encoding means on the basis of the information ~~code~~ encoding rate for the at least one information encoding means and the encoding difficulty level.

6. (Currently Amended) A statistical multiplex controller according to claim 5, wherein the means for assigning

determines an image reference value by subtracting the information ~~code~~ encoding rate for ~~the information encoding means~~ from a gross code rate permissible, and

assigns the respective image code rates to each of the image encoding means within a limit of the image reference value.

7. (Currently Amended) A statistical multiplex controller according to claim 6, wherein the means for assigning

sets temporary code rates, which are temporary target values of the respective image code rates, for each of the image encoding means on the basis of the encoding difficulty levels, and

revises the temporary code rates so that the sum of the temporary code rates comes close to the image reference value within the limit thereof, thereby assigns the respective image code rates to each of the image encoding means.

8. (Canceled)

9. (Currently Amended) A method of statistical multiplex according to claim 8, wherein the step of assigning ~~includes steps of~~ comprises:

determining an image reference value by subtracting the information encoding ~~code~~ rate for the ~~information encoding means~~ from a gross code rate permissible; and

assigning the respective image code rates to each of the image encoding means within a limit of the image reference value.

10. (Currently Amended) A method of statistical multiplex according to claim 9, wherein ~~the step of assigning includes steps of~~ the respective image code rate further comprises:

setting temporary code rates, which are temporary target values of the respective image code rates, ~~for each of the image encoding means~~ on the basis of the encoding difficulty levels; and

revising the temporary code rates so that the sum of the temporary code rates comes close to the image reference value within the limit thereof, thereby assignment of the respective image code rates to each of the ~~image encoding means~~ program data is performed.

11. (Currently Amended) A statistical multiplex controller used for a statistical multiplex system which includes

at least one information encoding means for

- acquiring an information encoding rate,
- encoding auxiliary data other than the program data,
- determining a target encoding rate for said auxiliary data, and
- outputting the resulting encoded auxiliary data;

means for determining data remaining condition information regarding said encoded auxiliary data;

data transmission command means for

- acquiring said target encoding rate,
- acquiring said data remaining condition information, and
- determining said information encoding rate on the basis of said target encoding rate and said data remaining condition information; and

multiplex means for multiplexing output data of each of the image encoding means and the at least one information encoding means, comprising:

- means for setting a respective image code rate for ~~the information~~ each image encoding means, the image code rate representing an amount of codes to be outputted per unit time;
- means for acquiring an encoding difficulty level which indicates a level of difficulty in encoding for each program data; and

means for assigning the respective image code rates to each of the image encoding means on the basis of the ~~code~~ information encoding rate for the at least one information encoding means and the encoding difficulty level.

12. (Canceled)

13. (New) A statistical multiplex system, comprising:

a plurality of image encoding means to encode a plurality of program data and output a respective encoding difficulty level for each program data, the difficulty level being an indicator of the difficulty in encoding for each program data;

at least one information encoding means to encode auxiliary data, which is other than program data, based on an information encoding rate and to output a target encoding rate for said auxiliary data;

means for determining data remaining condition information regarding the encoded auxiliary data and to determine the information encoding rate based on the target encoding rate and the data remaining condition information;

means for multiplexing the encoded program data and the encoded auxiliary data; and

statistical multiplex control means to provide a respective image code rate for each image encoding means based on the information encoding rate and the encoding difficulty level, the image code rate representing an amount of codes to be outputted per unit time.

14. (New) A method of statistical multiplexing comprising:

encoding a plurality of program data based on a respective image code rate, each respective image code rate determined from an information encoding rate and an encoding difficulty level, the image code rate representing an amount of codes to be outputted per unit time;

determining a target encoding rate for auxiliary data, the auxiliary data comprising data other than program data;

encoding the auxiliary data based on the information encoding rate, the information encoding rate determined from the target encoding rate and data remaining condition information regarding the encoded auxiliary data; and

multiplexing the encoded program data and the encoded auxiliary data,
wherein the difficulty level is an indicator of the difficulty in encoding for each program data.